

Types of Eye Protection

Selecting the most suitable eye and face protection for employees should take into consideration the following elements:

- Ability to protect against specific workplace hazards.
- Should fit properly and be reasonably comfortable to wear.
- Should provide unrestricted vision and movement.
- Should be durable and cleanable.
- Should allow unrestricted functioning of any other required PPE.

The eye and face protection selected for employee use must clearly identify the manufacturer. Eye and face protective devices used in the general and maritime industries must comply with ANSI Z87.1-2003, ANSI Z87.1-1989 (R-1998) or ANSI Z87.1-1989. Eye and face protective devices that the employer demonstrates are at least as effective as devices that are constructed in accordance with one of the above consensus standards will be acceptable. Eye and face protective devices used in the construction industry must comply with ANSI Z87.1-1968.

An employer may choose to provide one pair of protective eyewear for each position rather than individual eyewear for each employee. To minimize or eliminate the potential for employees to contract infectious diseases from contaminated surfaces, the employer should make sure that employees disinfect shared protective eyewear after each use. Care should be taken when cleaning and sanitizing the protective eyewear so as not to damage any protective coatings. Protective eyewear with corrective lenses may only be used by the employee for whom the corrective prescription was issued and may not be shared among employees.

Some of the most common types of eye and face protection include the following:

- **Safety spectacles/glasses.** These protective eyeglasses have safety frames constructed of metal or plastic and impact-resistant lenses. Side shields are available on some models. Safety glasses should not be used for protection against chemical splashes, mists or vapors.
- **Goggles.** These are tight-fitting eye protection that completely cover the eyes, eye sockets and the facial area immediately surrounding the eyes and provide protection from impact, dust, mists, vapors and splashes. Goggles with direct ventilation typically are used for impact hazards and dusts, not for protection against chemical splashes or vapors. Goggles with indirect ventilation are used for protection from dusts and splash hazards. Goggles with no ventilation provide protection from dusts, splashes, mists and vapors. Goggles with foam or cloth padding should not be used for chemical splash protection. Some goggles will fit over corrective lenses.
- **Welding shields.** Constructed of vulcanized fiber or fiberglass and fitted with a filtered lens, welding shields protect eyes from burns caused by infrared or intense radiant light; they also protect both the eyes and face from flying sparks, metal spatter and slag chips produced during welding, brazing, soldering and cutting operations. The filter lens shade number must be appropriate to protect against the specific hazards of the work being performed. (See Tables 1 and 2.)
- **Laser safety goggles.** These specialty goggles protect against intense concentrations of light produced by lasers. The type of laser safety goggles an employer chooses will depend upon the equipment and operating conditions in the workplace. (See Table 3.)
- **Face shields.** These protective devices shield the employees' face and eyes from various hazards. Face shields are typically used to provide protection from dust, liquid splash and spray hazards. The face shield windows are available in a variety of materials, shapes, thickness, shades and tints, depending on their particular application. Commonly available windows are transparent sheets of plastic or wire screen. Some are polarized for glare protection. The face shield windows are designed to extend from the eyebrows to below the chin and across the entire width of the employee's head.

Note: Face shields shall be used only in conjunction with spectacles or goggles, providing a higher level of protection to the employees face and eyes.

Each type of protective eyewear is designed to protect against specific hazards. Employers can identify the specific workplace hazards that threaten employees' eyes and faces by completing a hazard assessment as outlined in the earlier section. It is important during the selection process to remember that different product categories are tested at different levels of impact resistance. Figure 1 shows a variety of eye and face PPE.